

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:** Casey, William**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-026651**Date Inspected:** 07-Nov-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** Jesse Cayabyab and Pat Swain**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** SAS OBG**Summary of Items Observed:**

Caltrans Office of Structural Material (OSM) Quality Assurance Inspector (QAI) Joselito Lizardo was present at the Self Anchored Suspension (SAS) job site as requested to perform observations on the welding of components for the San Francisco Oakland Bay Bridge (SFOBB) Project.

At OBG 13W/14W bottom plate 'D2' inside, QA randomly observed ABF certified welder James Zhen ID #6001 perform 1G (flat position) Submerged Arc Welding (SAW) welding fill pass on the Complete Joint Penetration (CJP) splice butt joint. The welder was utilizing F7A6-EM12K-H8, 3.2mm electrode with corresponding Esab OK Flux 10.62 flux and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-4042B-1. The joint being welded has a single V-groove butt joint with backing bar. The plates were preheated to more than 200 degrees Fahrenheit using Miller Proheat 35 Induction Heating System heater blankets located at the opposite side of the plate prior/during welding. Welding parameters were monitored by ABF/QC Pat Swain. QA noted the welding parameters, the workmanship and appearance of the completed fill pass deemed satisfactory. During the shift, fill pass welding was still continuing when observations for the SAW welding of the north side of the joint was turned over to fellow QA Craig Hager while this QA was assigned to another welding location.

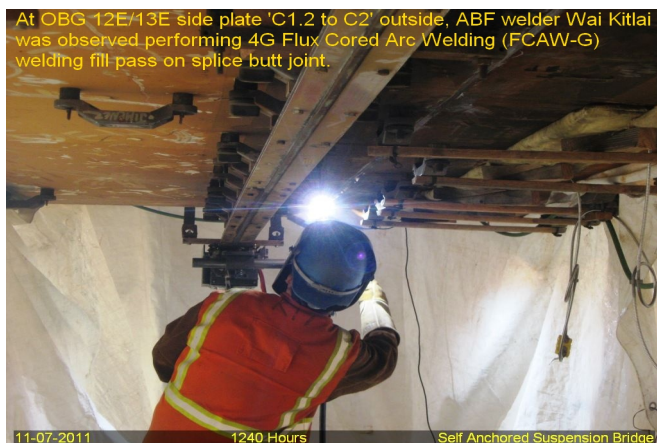
QA randomly observed ABF/JV qualified welders Wai Kitlai and Jin Pei Wang perform CJP groove back welding fill pass to cover pass on Orthotropic Box Girder (OBG) 12E/13E side plate 'C1.2 to C2' outside. The welders were observed simultaneously welding in the 4G (overhead) position utilizing a dual shield Flux Cored Arc Welding (FCAW-G) with E71T-1M, 1/16" diameter wire electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-3110-4. The welder was using a track mounted welder holder

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assembly that was remotely controlled. The joint being welded has the backing bar gouged using the Esab Plasma Arc machine and was ground smooth. The gouged and ground splice butt joint was also Non Destructive Testing (NDT) tested using the Magnetic Particle Testing (MT). The splice joint was preheated to greater than 200 degrees Fahrenheit using Miller Proheat 35 Induction Heating System with the heater blankets located on top of the plate prior welding and maintained by moving the heater blanket at the side of the plate being welded during welding. The vicinity was properly protected from wind. During welding, ABF Quality Control (QC) Jesse Cayabyab was noted monitoring the welding parameters of the welder. At the end of the shift, cover pass welding was completed and the welders have held the preheat of more than 200°F for three (3) hours as required.

At OBG 12W/13W side plate 'C' outside, ABF Bernie Docena was observed performing Magnetic Particle Testing (MT) on the carbon arc gouged and ground removal of the backing bar. QC has found no significant defects during the test. After the completion of the MT, ABF welders Rory Hogan and Jeremy Dolman have prepared the joint and set up the Bug-o track for the back welding of the splice butt joint. The welders have also prepared the Miller Proheat 35 Induction Heater blankets in preparation for the preheating of the joint during welding.



## Summary of Conversations:

No significant conversation occurred today.

## Comments

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This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact SMR Nina Choy 510-385-5910, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Lizardo, Joselito	Quality Assurance Inspector
<b>Reviewed By:</b>	Levell, Bill	QA Reviewer

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